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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/598,842

09/13/2006

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EXAMINER

KRYLOVA, IRINA

ART UNIT

PAPER NUMBER

4131

MAIL DATE

DELIVERY MODE

12/24/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/598,842	Applicant(s) MASAKI, KOJI	
	Examiner IRINA KRYLOVA	Art Unit 4131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 2,3,10,13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>09/13/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

Claims 2, 3, 10, 13, 14 are objected to because of the following informalities. Claims 2, 3, 10, 13, 14, which are dependent from claim 1, recite rubber (A). Claim 1 does not specify rubber (A). Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1-12 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by

Nakagawa et al in JP 2003253051 (rejection is based on a machine English translation).

As to instant claims 1-3, 5-6, 8-9, **Nakagawa et al** discloses a rubber composition for tires comprising:

A) 100 part by mass of a styrene-butadiene copolymer having a weight – average molecular weight of 400,000 to 3,000,000, as obtained by gel permeation chromatography and expressed as the value of corresponding polystyrene, having the content of bound styrene 20-70% by mass, a content of a vinyl unit in the butadiene portion 10-50% (Abstract, [0008]);

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B) 10-200 parts by mass of styrene - butadiene copolymer having a weight – average molecular weight of 5,000 to 200,000, as obtained by gel permeation chromatography and expressed as the value of corresponding polystyrene, having the content of bound styrene 25-70% by mass and a fraction of hydrogenated double bond in the butadiene portion of 60% or greater (Abstract, [0008]);

C) 10-150 parts by mass per 100 parts by mass of A) and B), of styrene-butadiene, butadiene, or isoprene rubber ([0024]), wherein the difference between styrene content between copolymer B) and copolymer A) is equal or more than 10% ([0008], [0012]).

As to instant claims 4 and 7, the copolymers A) and B) are obtained by solution polymerization ([0013], [0014]). As to instant claim 10, the composition comprises 10-250 parts by mass of a filler per 100 parts of the rubber component ([0031]). As to instant claims 11-12, the filler comprises carbon black HAF or SAF class ([0028]). As to instant claim 15, the rubber composition is used to make tire treads (Claim 19).

Claims 1-2, 5-9, 13-15 are rejected under 35 U.S.C. 102(b) as being anticipated by **Fujimaki et al** in US 4,866,131.

As to instant claim 1, **Fujimaki et al** discloses a rubber composition for tire treads comprising:

A) 10-60%wt of aromatic vinyl compound - diene copolymer;

B) diene-based rubber,

wherein the copolymer has molecular weight of 2,000-50,000 (as to instant claims 8-9);

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aromatic vinyl compound comprises styrene (as to instant claim 5), diene comprises butadiene (as to instant claim 6) (Abstract, col. 2, lines 22-26; Table 1). The copolymer comprises 20-70% of styrene and vinylic butadiene units comprise 39-70% (Table 1). As to instant claim 2, rubber comprises styrene-butadiene rubber (col. 3, lines 12-20). As to instant claim 7, the copolymer is prepared by solution polymerization (col. 2, lines 48-50). The composition comprises carbon black of HAF class (Table 2). As to instant claims 13-14, the composition contains 37.5 parts by weight of an aromatic oil per 100 parts by weight of styrene-butadiene copolymer (col. 4, lines 50-55). As to instant claim 15, the composition is used to make high performance tire treads (col. 6, lines 1-5).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Fujimaki et al in US 4,866,131, as applied to claim 1 above, and further in view of

Muraki et al in US 5,500,482.

Fujimaki et al discloses a rubber composition for tire treads comprising:

A) 10-60%wt of aromatic vinyl compound - diene copolymer;

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B) diene-based rubber,

wherein the copolymer has molecular weight of 2,000-50,000, aromatic vinyl compound comprises styrene, diene comprises butadiene (Abstract, col. 2, lines 22-26; Table 1).

The copolymer comprises 20-70% of styrene and vinylic butadiene units comprise 39-70% (Table 1).

Fujimaki et al teaches adding a filler (see col. 3, lines 55-58) but fails to disclose the addition of 30-90 parts by weight of filler based on 100 parts of rubber component.

As to instant claims 10-11, **Muraki et al** discloses a rubber composition for a tire tread comprising :

1) 100 parts by weight of rubber component comprising :

a) natural rubber;

b) 20-60% by weight of styrene-butadiene copolymer having vinyl content in the butadiene portion 35-80% by weight and a styrene content of 10-40% by weight;

2) 20-70 parts by weight of carbon black (Abstract). As to instant claim 12, carbon black is HAF class (col. 7, lines 25-30).

Since **Muraki et al** discloses a rubber composition comprising styrene-butadiene copolymer and a rubber, similar to composition of **Fujimaki et al**, but specifies addition of carbon black filler to improve wet slid resistance of the tire, therefore, it would have been obvious to one skilled in the art at the time of the invention was made to include

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carbon black filler into composition of **Muraki et al**, similar to **Fujimaki et al**, to improve wet skid resistance and wear resistance of the tire tread (see col. 2, lines 12-21 in **Muraki et al**).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Akita et al in US 4,929,679 discloses a tire composition for tire tread comprising two styrene-butadiene copolymers different from each other in the styrene content. Tokieda et al in US 5,227,424 discloses a blend of styrene-butadiene rubber, natural rubber and carbon black. Nakamura et al in US 6,313,213 discloses a rubber composition comprising natural rubber, polybutadiene rubber, styrene-butadiene copolymer and carbon black.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to IRINA KRYLOVA whose telephone number is (571)270-7349. The examiner can normally be reached on Monday-Friday 7:30am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on (571)272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/David R. Sample/
Supervisory Patent Examiner, Art Unit 4131

/I. K./
Examiner, Art Unit 4131